

METHODS OF STIMULATE THE GERMINATION OF BLACK PINE (*PINUS NIGRA*) SEEDS

Sîngeorzan Steluta-Maria, Truța Alina Maria, Arion Iulia, Rebrean Florin, Chilat Mihail-Gabriel, Colișar Alexandru, Vlasin Horia Dan
*University of Agricultural Sciences and Veterinary Medicine,
Faculty of Forestry and Land Surveying, Cluj-Napoca, Romania*
E-mail: steluta-maria.singeorzan@usamvcluj.ro

The Black Pine (*Pinus Nigra*) belongs to the genus *Pinus*, which is one of the oldest genera. Today, more than 100 species belong to the genus *Pinus*, making it the richest genus of gymnosperms in the northern hemisphere. Black pine is used in plantations for its ornamental value, for timber production purposes, but especially in reclamation of degraded land.

The present work aims to apply methods to stimulate germination of black pine seeds. The study consists of using growth stimulators, following the germination faculty and germination capacity of *Pinus Nigra* (Black Pine) seeds under laboratory conditions, as well as seedling development.

Seeds of different origins were used, harvested from the counties of Bistrița-Năsăud, Cluj and Alba. The seeds were sown in containers with several wells and a single type of soil substrate (peat + perlite). Three variants were carried out for this method, in the first variant the seeds were soaked in distilled water, in the second variant the seeds were soaked in the growth stimulator *Sprintene* and for the third variant the seeds were soaked in the growth stimulator *Atonik*.

The highest germination rate was obtained in the variant with *Atonik*, both in terms of seed germination and seedling development, followed by the variant treated with the *Sprintene* stimulator. Seedling development, i.e. seedling height, was also influenced by provenance, but treatment and age also interacted on seedling development.

Although seeds kept under laboratory conditions retain their viability, the use of a growth stimulator is recommended to obtain the highest germination percentage. Plants treated with growth promoters are more advanced in growth and development, thus they positively affect vital plant processes and improve nutrient uptake.

Keywords: *Black Pine, germination, seeds, stimulator.*